

What is claimed is:

1. A protein or a variant thereof, which has a binding activity to an insulin receptor-related receptor and the following characteristics:

(a) it has the amino acid sequence of SEQ ID NO: 1;

(b) it has a molecular weight of about 6135, 6206, 6250 or 6321 measured by mass spectrometry using the Fourier transformation ion cyclotron method.

2. The protein according to claim 1, which has the amino acid sequence of any one of SEQ ID NOS: 3-7.

3. A pharmaceutical composition, which comprises a protein binding to an insulin receptor-related receptor or an agonist or antagonist thereof as an active ingredient.

4. The pharmaceutical composition according to claim 3, wherein the composition has an action of regulating growth/differentiation of a cell which expresses an insulin receptor-related receptor.

5. The pharmaceutical composition according to claim 4, wherein the cell is a cell related in diabetes, neuropathy, renal disorder or gastrointestinal injury.

6. The pharmaceutical composition according to claim 5, wherein the cell is a pancreatic β cell.

7. The pharmaceutical composition according to any one of claims 3-6, wherein the protein binding to an

insulin receptor-related receptor is an
epithelin/granulin.

8. The pharmaceutical composition according to
claim 7, wherein the epithelin/granulin is a protein
5 which is contained in a culture supernatant of rat
glioma cells stimulated with a phorbol ester and
concentrated in a fraction eluted with 8-20%
acetonitrile from a C18 reverse phase HPLC column.

9. The pharmaceutical composition according to
10 claim 7, wherein the epithelin/granulin has the amino
acid sequence of SEQ ID NO: 8.

10. The pharmaceutical composition according to
claim 7, wherein the epithelin/granulin is a protein
having the amino acid sequence of any one of SEQ ID NOS:
15 3-7 or a variant thereof having a binding activity to
the insulin receptor-related receptor.

11. A DNA encoding the protein according to claim
1.

12. The DNA according to claim 11, which encodes
20 an amino acid sequence of any one of SEQ ID NOS: 3-7.

13. A method for searching for an agonist or an
antagonist of an insulin receptor-related receptor
binding protein, comprising the steps of:

allowing binding of the insulin receptor-related
25 receptor and a protein binding to the receptor in the
presence of a test substance, and

measuring inhibition of the binding.

Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
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